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DEPARTMENT OF USEFUL ART.

The Grover & Baker Sewing Machine Company's Establishment.

THE recent completion of the new building designed for the accommodation of the Grover & Baker Sewing Machine Company's business, renders it a proper occasion for us to introduce this establishment and its machines to the attention of our readers. It is, emphatically, a "representative" enterprise; for a business which demands such a building for its prosecution must bear an important relation to the industry and capital of the metropolis. The manufacture and sale of sewing machines now absorb much of the best mechanical and commercial genius of the country. Capital to an immense amount is employed in the manufacture, while the sales and operating rooms are models of elegance, beauty, and convenience. The whole business is indicative, not more of American inventive talent than of our taste, energy, and liberality in meeting the demands of the time, and the claims of humanity. Nowhere in the world, outside of our glorious Union, do such enterprises exist; and when we call them *representative*, the fitting word is used: they *are* representatives of American hands and brains, of which the race has good reason to be proud.

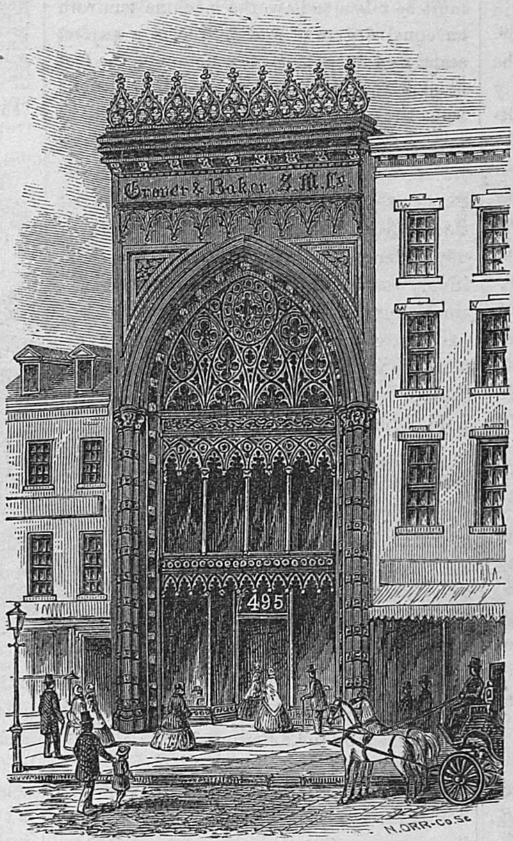
The Grover & Baker Company is one of the oldest and most successful of the originators and directors of the business. It entered the field at an early day, when sewing machines were almost in their first stages—when their manufacture was more of an experiment than anything else; step by step it has progressed in the development of the trade and the perfecting of its machines; taking advantage of all possible improvements in the make, adaptation and modification of the machinery, it has enjoyed the exclusive benefits of the inventive genius of one person of the firm (Mr. William O. Grover), by which it has been placed in possession of privileges and patents that have given its machines peculiar and exclusive excellences, until now, we find the company strong in resources, quick in the enterprise of competition, exercising a marked influence on the times by its taste and liberality, and diffusing good results to society, to morals, and to the happiness of our kind.

The building erected by the Company, for its exclusive use, is situated on Broadway (No. 495), in the St. Nicholas Hotel block, between Broome and Spring streets, and on the promenade side of the great thoroughfare. It has a front of twenty-five feet, with a depth of two hundred feet, extending through to Mercer street. In this fine area are comprised some of the most beautiful rooms to be found upon the "street of superb stores."

Thus, in the basement is the *Packing Room*, two hundred feet long by twenty-five feet in width, while the *Repair Shop* extends out beneath the walk and street, giving a fine room twenty-five by twenty five feet.

The first floor, *Sales Room*, is one hundred and fifty feet long, by twenty-five in width. Back of it is a *Fitting-up Room*, fifty by twenty-five feet, fronting on Mercer street,

The second floor comprises the main *Tuition Room* (called the Ladies' Parlor), one hundred and fifty feet in length by twenty-five in width. Back of this room is the *Ware Room for Cabinets* and tables, fifty by twenty-five feet.



The third floor comprises a room twenty-five by fifty feet, devoted to storage and packages awaiting orders.

These leading rooms are beautifully and tastefully furnished. Walls are in hard finish; floors are carpeted with tapestry, velvet, and Brussels; mirrors adorn the sides; a piano is at hand; sofas are disposed around in a most inviting manner; and a well-chosen library offers its treat to all, while machines of every pattern, size, and style, occupy the floors in long lines and numbers which bewilder the eyes. The whole is lit by four sky-lights or "wells," three of which are seventeen feet in length, by eight feet four inches in width, oval shaped. They are guarded by heavily built railing. From the first to the second floor springs a fine flight of stairs. The salesroom is lighted, at night, by seven richly mounted chandeliers, of six burners each. Upon the right side of this room, as you enter, is the counter and goods' shelving, where the purchaser obtains needles, silk, thread, etc., etc.—everything being kept on sale which may be required for the successful working of the machine. Beyond the counter are the desks of the book-keepers, cashier, advertising agent, etc. Machines occupy the left side and centre of the floor, running through the whole length. On the second floor, or Ladies' Parlor, are machines disposed to suit the convenience of the operators. It is in this room that persons buying a machine are taught how to work it successfully. Skilful and obliging lady operators are in attendance, to render all necessary assistance, and an hour or two generally suffices to initiate the most inexperienced into the mysteries of the whole thing—practice, then, only being necessary to make a rapid and good sewer.

The front of the building is one of unique design, and very imposing. It is of cast-iron—arch, fret-work, cornice, window-frames, and all—showing how admirably this all-pervading metal is adapted to building and ornamental purposes. The windows are of plate glass, of the heaviest and most expensive character—those of the salesroom being fourteen feet in height, by five feet in width, all in one solid plate—those of the Ladies' Parlor being ten feet in height, by four feet eight inches in width. The show windows are upon each side of the entrance from the walk, and are among the finest on the street. They contain work wrought by the machines, as well as the machines themselves. The throng passing up and down Broadway tarries before these windows to inspect their treasures of industry and skill.

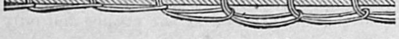
The entire building is heated by steam, from boilers under the walk on Mercer street. This heat is moist and exhilarating—in strong contrast to the old method of dry, debilitating air from furnaces or stoves.

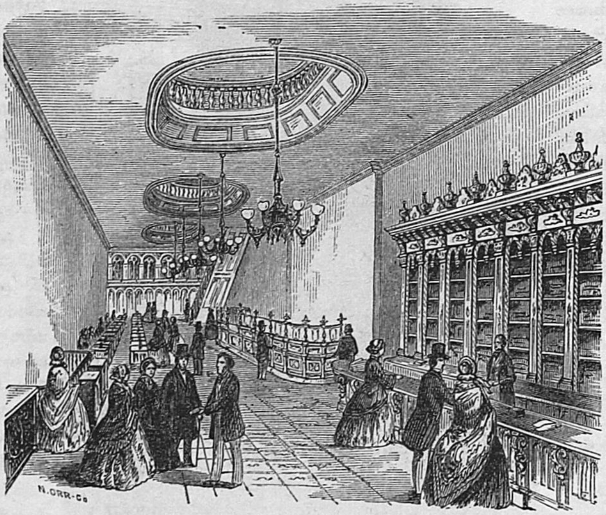
The artisans, whose handiwork built and fitted the structure, are: Uriah Ritchie, of Boston, builder; Pearson & Reid, carpenters; D. H. McCormick, painter; W. & J. Sloan, carpets; Haughwout & Co., gas fitters; and the iron front casting by Badger & Co., of this city.

This comprises, in brief, a sketch of this

Palace of Sewing Machines. With our data, and the beautiful views given by our illustrator, Mr. Guildermeister (architect of the late Crystal Palace), the reader will have no difficulty in comprehending the character of the building; and, while he may be surprised at its great beauty and cost, he will not fail to be pleased and satisfied at this union of the graces with the practical—the *dulce cum utile.*

The Sewing Machine business, which has now assumed such gigantic proportions, and which has grown to become, in an economical point of view, of an importance second only to that of the steam engine, as an economizer and assistant, is a late and *American* invention. It is true, the tambour, or single thread machine has been, for years, in use in France and other European countries, for ornamental work, but for family use and the necessities of the trade it has proven utterly impracticable, on account of the inherent defects of the stitch. It is formed by thrusting the thread through the fabric where a loop is held open until the thread is a second time thrust through the fabric and first loop. This process is repeated until the seam is formed, making the series of loopings on the single thread referred to. This stitch has been much used for ornamental sewing, and there are numerous families in almost every part of the United States who relate sad experiences of their efforts to apply it to the wants of the household. It has the same defect of the stitch made by our dear old grandmothers with knitting needles. Whenever a stitch is "dropped" or skipped," the seam may be ravelled, like an old stocking, from that stitch. The same ravelling will take place, if the thread break, and there be any strain upon the seam laterally. It is this tambour or single thread stitch, which the numerous cheap machines now offered to the uninitiated, almost entirely use. They are, almost without exception, a dear purchase at any price. The following diagram represents this stitch :

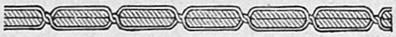




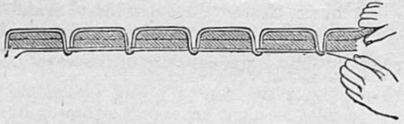
View of Sales Room.

The first really practical machine, adapted to the uses and necessities of the family and shop, was invented by Mr. Elias Howe, Jr., of Massachusetts, who, Sept. 10th, 1846, patented his shuttle, or "lock stitch" machine, which sews with two threads. The peculiarities of this stitch are thus described in a little work on the subject issued by Grover & Baker, now before us :

"The *perfect* 'shuttle' or 'lock-stitch,' is formed of two threads, one upon the upper, and the other upon the under side of the fabric, crossing each other in the centre, as in the following diagram :



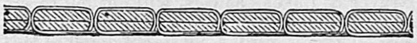
The upper thread is thrust through the fabric, where a loop is thrown out and held open, and a straight thread thrust through that loop, with either a reciprocating shuttle or a bobbin and a rotating hook. On thick fabrics, that are not to be washed and ironed, the looping points of the threads may be drawn into the centre of the fabric, as shown above, and the seam will then have a very considerable degree of elasticity. Great care must be taken to have the machine run with an equal degree of speed, to form a perfect seam, as a faster or slower motion of the foot is invariably certain of altering the tension; when the seam, instead of showing the stitch alike on both sides, will present the appearance shown by the following figure :



with a straight thread on the under surface of the fabric, which may easily be drawn out, leaving the upper thread ravelled. Thin fabrics show this imperfection in a greater degree than heavier goods, because they have not body enough to prevent the crossing point of the threads to be drawn into the centre, and the lower thread must, of necessity, be straight, for the two threads are of themselves as thick as many fabrics, and when an attempt is made to have 'the seam alike on both sides,' the under thread is seen between the stitches on the right side, and the upper thread is seen in the same manner on the under side, so that to be able to make a fair stitch on the right side, it is absolutely necessary to let the under thread lie straight, which can be drawn out at will. Great care must be had in washing and ironing garments that have this straight thread, that all unnecessary stretching and straining be avoided, lest the straight thread break and the seam rip. There is, also, a constant danger of this in wearing a garment, especially wherever there is what ladies call a 'bias seam,' where *elasticity of stitch* is absolutely essential. Even when the 'shuttle' or 'lock-stitch' seam is perfectly sewed, with the threads crossing in the centre, there is continued friction at the point of crossing, and this friction must wear the threads enough to make one of them break with a moderate strain, when the seam will rip several inches, or as far as the ends of the thread will permit them. Every 'shuttle' or 'lock-stitch' seam requires to have the ends of the seam either *tied* with the ends of the threads of which it is formed, or fastened with a hand-needle, to prevent it from ripping."

To obviate these difficulties of Mr. Howe's stitch was a matter of moment. In the adaptation of machinery to the purposes of sewing, by Mr. Howe, the greatest difficulties were overcome. Mr. William O. Grover now addressed himself to the subject of rendering the lock-stitch *elastic*, and the result was his new stitch, patented in 1851, and known in the trade as the "Grover & Baker stitch," which is described as follows, in the pamphlet referred to :

"Two threads are used. The under thread of the lock-stitch is wound *through* and *around* the loop of the upper thread, *tying each stitch twice*, and thus securely and permanently fastening each individual stitch, and rendering it so wholly independent of the other stitches that if the seam be cut or broken at every quarter inch, the sewing must hold good while the fabric will wear. It gains its strength and elasticity from the under thread, which divides the strain between the several threads, and permits the upper thread to compress the material between the stitches, while each loop gives or yields to the force which the other stitches feel, instead of concentrating the strain upon a single point of the thread, as is the case with both the 'single thread' and the 'shuttle' or 'lock-stitch.' When the Grover & Baker stitch is finished, with the loop drawn up, the under thread lies flat and close to the fabric, and after being washed and ironed, has the appearance of being inwrought in the substance of the material, and when the proper thread and tension have been used, making no rougher surface than the under side of the 'lock-stitch' (as exhibited in the following figure)." It will be perceived that the seam forms no "ridge" that is not readily drawn *into* the fabric to strengthen and sustain it:



This is the *comparative* character of the stitch patented by Mr. Grover. Its working peculiarities are thus summed up:

"The Grover & Baker stitch is formed by carrying the upper thread through the fabric by means of a vertical eye-pointed needle, where a loop is thrown out as the needle rises, which loop is entered by a circular needle, carrying the under thread, and this under thread, in its turn, throws out a loop, which is caught by the vertical needle, as it comes down again. This series of interloopings continues until the seam is formed, which gives great strength and elasticity. The machinery which makes this stitch is a marvel of simplicity and ingenuity, requiring no mechanical skill to manage. Nor does it require other adjustment than a mere change of threads and needles, to adapt it to the character of the work to be sewed—coarse or fine, as the case may be. One of the lightest family machines will sew gauze laces, and all the varieties and kinds of fabrics, between and including beavercloth, without changing either needle, thread, or tensions; will sew each equally well, and return to either variety of work with perfect satisfaction. It may also be added, that the thread is used direct from the spools as they come from the store—no rewinding at all being necessary or desirable—in this respect differing materially from other machines. Each seam is perfectly finished at any moment the motion is stopped, thus differing from other machines, which require the threads to be tied at the end of each seam, to prevent ravelling."

The mechanism of the Grover & Baker machine is exceedingly simple, durable, and easily understood by any person, old or young. This construction is also the result of Mr. Grover's ingenuity. From time to time he has added to his improvements and patents, until the present "noiseless" machine is the result. His improvements and patents bear dates as follows:

First patent on	February	11th,	1851.
Second " "	June	23d,	1852.
Third " "	February	22d,	1853.
Fourth " "	October	5th,	1858.
Fifth " "	October	19th,	1858.

View of Ladies' Parlor (Second Floor.)

Mr. G. has had constantly in view the very important fact that ladies are generally entirely unaccustomed to machinery, and are not particularly successful in overcoming the mysteries of intricate movements and adjustments. The inventor has not for a day ceased his study and experiments with his first patented machine, but has operated and applied modifications so persistently that the present "noiseless" sewer is such a pattern of beauty, simplicity, and efficiency as fully repays his long-protracted efforts. The *women* of America owe him as many thanks as the stitches they have to take yearly

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Ladies often ask, "Do you think that I could manage a Sewing Machine?" "Certainly, any lady can," is the invariable answer to all such doubting ones. There is nothing in its management that the simplest mind may not grasp, and it is merely a question of time and memory with some. Most ladies will learn on once showing, while others will require two or three lessons to enable them to manage it successfully. Much depends on the natural capacity of the learner; but there is no person of ordinary intelligence who cannot become an expert operator by the exercise of a very little patience. Then, no more weary hours, and days, and nights of labor, with aching head, and hands, and strained eyes—then no more worry for work undone—no more waiting for the dressmaker, and having this hard-used personage around the house—no more payment of tailors and seamstresses! The quiet little machine, which ornaments the corner of the setting-room, is the peaceful instrument of a revolution which affects health, and hearts, and homes, more than any glorious "Declaration" ever wrought for an oppressed people.

How that sewing woman of Hood's haunts the memory! It makes the heart shudder to contemplate the picture, for we know it was true. *Was* true! God be blest, it is not much longer to be so!

"O Men, with sisters dear!
O Men, with mothers and wives!
It is not linen you're wearing out,
But human creatures' lives!
Stitch—stitch—stitch,
In poverty, hunger, and dirt,
Sewing, at once, *with a double thread,*
A shroud as well as a shirt!"

Yes, Heaven be praised that this fearful "Song of the Shirt" shall soon cease to haunt our very dreams! that the sewing machine has come to the relief when all charities were powerless to afford it.

"Oh but to breathe the breath
Of the cowslip and primrose sweet—
With the sky above my head
And the grass beneath my feet,
For only one short hour
To feel as I used to feel,
Before I knew the woes of want,
And the walk that costs a meal!"

It is answered, poor, pale creature of the needle; even for you, in your wretchedness and pain, there is a springtime in store, and the breath of flowers and the warm sunlight of the blessed summer; the sewing machine is your deliverer from a bondage which shamed the ruder tortures of the rack and gibbet.

It has been popularly objected to the Grover & Baker stitch that it cannot be ripped at all, and therefore is not desirable for a *family*, because it is so frequently necessary, in the practice of true economy, to rip and make over-clothing, etc. But this stitch, though so very permanent—though it resists a ravel even though the threads may be severed every half inch—*is* readily removable. The little directory before us says, on this head:

"Whenever it is required to remove a seam, either because it has not been sewed in the right place, or because it is desirable to refit a garment to a change in style or fashion, it may be done without much loss of time, after receiving instruction in the proper and only method of doing it. The operator must carefully pick up three stitches on the upper or right side of the seam, and then take both upper and under threads, and pull them in opposite directions, when it will ravel (not rip) as far as desired. Whenever the threads are cut off, the seam becomes tight and fast from that point, and three more stitches will have to be taken up and untied as before. If the two pieces of cloth be pulled apart, THE SEAM WILL NOT RIP. No straining or stretching will make it rip, under any circumstances, except in the manner named, viz., untying three stitches of that part of the seam that last passed through the machine, and then the threads—not the fabric—must be pulled. It will be found to be tight and strong whenever the fabric is pulled. *This is the true test of wear.*"

In regard to the quantity of thread used by this machine, the manual says:

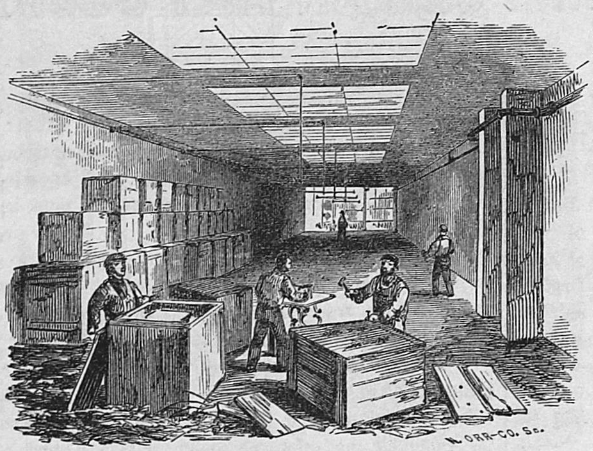
"The Grover & Baker stitch is found to be more economical than the 'shuttle' or 'lock-stitch.' It is here admitted that, in a given length of seam, the Grover & Baker stitch *uses one third* more thread on the under spool, than the 'lock-stitch,' but there is no *waste*, and there is no time lost in winding thread from the spools into the bobbins. As each stitch is firmly tied by the machine, it is not necessary to leave any ends of thread at the ends of seams, to fasten them. Consequently, *there is no waste.* In sewing straight seams, one seam may be sewed *immediately* at the end of the other—the threads being the only connecting link between them. This may be done with an indefinite number of seams, and they can be cut apart afterward, without interfering with their strength. It is found that 500 yards of thread—200 on the upper and 300 on the under spool—will stitch 107 yards of material, allowing a waste of about one yard by accidental breaking of thread. When a thread breaks, it requires about two inches of the end to be drawn on the bed-plate to commence sewing again. An actual trial with 200 yards of thread—80 yards on the upper, and 120 on the under spindle—gave a result of 57 yards of sewing, *with no waste.*"

The company, however, manufacture the ordinary "lock-stitch" or shuttle machine for manufacturing purposes, so that all who prefer it, for any reason whatever, can be supplied.

Upward of *thirty thousand* of the Grover & Baker machines have been sold to families in the United States alone, while they have been exported to every portion of the civilized world. They may be found in China, Hindostan, the islands of the Pacific, Australia, South America, Europe—in fact, everywhere where there is use for the busy needle. What other proof is needed to substantiate the claim of the sewing machine to the title of the most useful and practical invention of the 19th century?

The principal manufactory of the Grover & Baker Company is at Boston, where several hundred workmen are steadily employed in making and fitting up the machines; while in New-York city a large number of experienced mechanics are employed upon the cabinets, cases, and tables, for those machines requiring them. The whole number of persons in the employ of the company exceeds four hundred, showing how extensive must be the manufacture, and the immense amount of money required simply to carry on the business. So heavy is the capital now employed in the manufacture and sale of sewing machines, that it is folly for small means to enter the field in competition. The three or four great manufacturers, already so well known, have got the "inside track," and they mean to keep it.

The effort now is to render the machines even more perfect than they are. Mr. Grover is still *qui vive* in the matter, and will not fail to add to his machines whatever is new and good in the way of modifications and simplifications, though it seems almost impossible to simplify his invention further than in his last, the "noiseless" machine.



View of Packing Room. (Basement.)

Much complaint is made about the high price of sewing machines. It is unnecessary to say that they are fixed at as low figures as the present cost for patents, for manufacture, and for sales, will allow. Take the sum exacted by Mr. Howe for the use of his patent lock-stitch (which covers almost the whole ground of shuttle machines)—add the actual cost of the heavy castings, finishing, plating, and fitting—add the neat cases and table required—add the heavy expenses of the sales, offices, salaries, insurances, advertising, charges for cartages, etc., and it will be seen that the amount of fifty dollars for a family machine cannot leave a very heavy margin of profit. Indeed, were the sales not perfectly enormous, it is not probable the article could be furnished at such a price. It is true, more than fifty dollars is obtained for numbers of the machines; but the added price is simply for the added cost of the case, mounting, etc. Until machinery is more simplified, and all patents on needles and movements expire, it is not to be expected that perfect and good machines can be furnished for a sum much below the present grade of prices. A person competent to judge of the cost of producing machinery, examining one of Grover & Baker's sewers, will not fail to say the sums charged, considering all the circumstances above mentioned, is low enough.

We may very properly close this notice with a mention of some of the performances of the machines, that the reader may see just what they are capable of doing under the hands of an ordinary operator. He will then be better able to judge of the adaptation of the sewer for his own family's wants, or the wants of his business.

A machine was, last year, sent to a colored missionary at Lagos, Africa, and, by mistake, no directions were enclosed for putting up the machine and for working it. The machine arrived safely at its destination, and the missionary wrote back: "I put it together without the least trouble, and we can now stitch away like fine fellows." This illustrates the fact of the easy management of the Grover & Baker sewers, even by those who have never before seen one of them.

Capt. Hassan Bey, one of the suite of the "Grand Turk," purchased one of these sewers to take back to Constantinople. He says. "Previous to purchasing them, I examined others, but found yours possessing the advantages of simplicity of construction, strength, and elasticity of seam, and *ease in learning to work them*, which strongly recommend them for use in foreign countries, as well as the United States."

Mr. Kinney, the great aeronaut, lately wrote: "I have just completed a mammoth balloon on one of your machines, sewing up everything about the balloon; even to putting on the caps, bands, etc. I am satisfied it makes the strongest stitch of any machine extant. This is the second balloon I have made with your machine, and I find there is "no rip" to the seam."

The certificates of sewing-women, tailors, milliners, and workers in cloth generally, are "too numerous to mention;" they all serve to confirm the now unassailable reputation of the Grover & Baker machine for every character and description of work, light or heavy, coarse or fine, great or little May the day be not far distant when every household in the land shall possess one of these ministers of economy, health, and happiness!

Parties interested in the matter should correspond with the Company's New-York office.